Project Part 2

iae225

Part A

Following the procedure we studied, convert the ER diagram to a relational database schema diagram. Remember to include all PRIMARY KEY and FOREIGN KEY constraints that follow from the conversion rules of ER to schema.

Assume bold means pk

Answer

Category(**mainCategory**, **subCategory**, notes)

Item(**ItemID**,iDescription, photo, color, isNew?, hasPieces?, material, mainCategory, subCategory)

ItemCategory(**itemID**, **mainCategory**, **subCategory**)
ItemCategory(mainCategory) references Category(mainCategory)
ItemCategory(subCategory) references Category(subCategory)
ItemCategory(itemID) references Item(itemID)

Location(**roomNumber**, **shelfNumber**, shelfDescription)

Piece(**pieceNum**, **itemID**, pDescription, length, width, height, roomNumber, shelfNumber, storageNotes)
Piece(itemID) references Item(itemID)
Piece(roomNum) references Location(roomNumber)
Piece(shelfNumber) references Location(shelfNumber)

Person(**userName**, password, fname, lname, email)

PersonPhones(**userName**,**phoneNumber**)
PersonPhones(username) references Person(username)

DonatedBy(**donator**,**donation**, donationDate)
DonatedBy(donator) references Person(userName)
DonatedBy(donation) references Item(itemID)

Role(**roleID**, roleDescription)

Act(**userName**,**roleID**)
Act(userName) references Person(userName)
Act(roleID) references Role(roleID)

Order(**orderID**, orderDate, orderNotes, supervisor, recipient)
Order(supervisor) references Person(userName)
Order(recipient) references Person(userName)

Delivered(**deliveredBy**, **deliveredOrder**, orderStatus, orderDate)
Delivered(deliveredBy) references Person(userName)
Delivered(deliveredOrder) references Order(orderID)

ItemIn(**orderItem**, **orderID**, found)
ItemIn(orderItem) references Item(itemID)
ItemIn(orderID) references Order(orderID)

Part B

take the additional insertions to be those made for the last question.

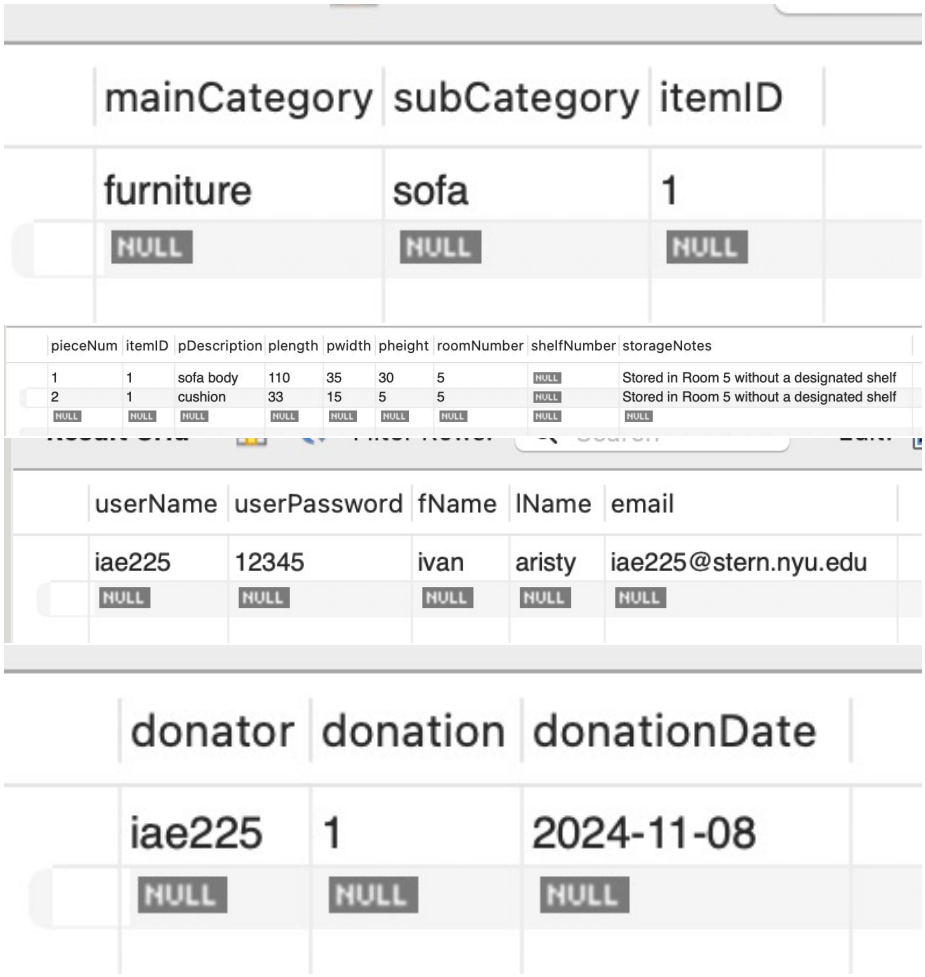
Part C

Question A

Record a new item that has been donated. It's a two-piece yellow sofa (category 'furniture', subcategory 'sofa'), donated by someone from your group. Their username should be their name as a single string, optionally with some numbers at the end. You may assign any itemID you'd like (or may look up how to use AutoIncrement). The pieces are the 'sofa body' and one 'cushion'. It will be stored in Room 5, without a shelf designated.

mainCategory	subCategory	notes
furniture	sofa	Sofas for Living ROoms
NULL	NULL	NULL

itemID	itemDescription	itemPhoto	itemColor	isNew	hasPieces	material
1	Two-piece yellow sofa	NULL	yellow	1	0	fabric
NULL	NULL	NULL	NULL	NULL	NULL	NULL



mainCategory	subCategory	itemID
furniture	sofa	1
NULL	NULL	NULL

pieceNum	itemID	pDescription	plength	pwidth	pheight	roomNumber	shelfNumber	storageNotes
1	1	sofa body	110	35	30	5	NULL	Stored in Room 5 without a designated shelf
2	1	cushion	33	15	5	5	NULL	Stored in Room 5 without a designated shelf
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

userName	userPassword	fName	lName	email
iae225	12345	ivan	aristy	iae225@stern.nyu.edu
NULL	NULL	NULL	NULL	NULL

donator	donation	donationDate
iae225	1	2024-11-08
NULL	NULL	NULL

```
insert ignore into Category values ('furniture', 'sofa', 'Sofas for Living ROoms');
insert ignore into Item values (1, 'Two-piece yellow sofa', null, 'yellow', true, false, 'fa
insert ignore into ItemCategory values ('furniture', 'sofa', 1);
insert ignore into Piece values (1, 1, 'sofa body', 110.0, 35.0, 30.0, 5, NULL, 'Stored in R
insert ignore into Piece values (2, 1, 'cushion', 33.00, 15.0, 5.0, 5, NULL, 'Stored in Room
insert ignore into Person values ('iae225', '12345', 'ivan', 'aristy', 'iae225@stern.nyu.edu
insert ignore into DonatedBy values ('iae225', 1, current_date);
```

Question B

Produce a list of all of the (pieces) of items in order #12345, along with their locations. This should have information that volunteers will find useful for locating the item when they're assembling the order, including the item IDs, their categories and subcategories, and the room and shelf where each piece is located. Optionally, you may include the description and other data.

Since we want to get items that might not have a designated piece we are doing outerjoins for the location.

```
insert ignore into Person values ('Someone', '321903210', 'some', 'person', 'anemail@nyu.edu
insert ignore into Orders values (12345, current_date, 'example', 'Someone', 'iae225');
insert ignore into ItemIn values (1, 12345, 'found what?');

select
    Piece.pieceNum as pieceNumber,
    Item.itemID as itemID,
    Item.itemDescription as itemDescription,
    Category.mainCategory as mainCategory,
    Category.subCategory as subCategory,
    Location.roomNumber as roomNumber,
    Location.shelfNumber as shelfNumber,
    Location.shelfDescription as shelfDescription,
    Piece.storageNotes as storageNotes,
    Piece.pDescription as pieceDescription,
    Piece.plength as length,
    Piece.pwidth as width,
    Piece.pheight as height
from
    Orders
join
    ItemIn on Orders.orderID = ItemIn.orderID
join
    Item on ItemIn.orderItem = Item.itemID
join
    Piece on Item.itemID = Piece.itemID
join
    ItemCategory on Item.itemID = ItemCategory.itemID
join
    Category on ItemCategory.mainCategory = Category.mainCategory and ItemCategory.subCatego
left join
    Location on Piece.roomNumber = Location.roomNumber and Piece.shelfNumber = Location.shel
where
    Orders.orderID = 12345
order by
    Item.itemID;
```